DETAILED ACTION

1.   Amendment received on 02/22/2008 has been entered into record. Claims 1, 8-9, 11-12

and 15-29 are cancelled. Claims 30-47 are new. Claims 30-47 are currently pending.

2.   Applicant's submission filed on 04/26/2007 was entered. Claims 1, 8, 11-12, and 15-20

were amended. Claims 2-7, 10 and 13-14 were cancelled. Claims 21-29 were new.

3.   Amendment received on 06/30/2006 was entered into record. Claims 1, 8 and 15 were

amended.

4.   Amendment received on 12/22/2005 was entered. Claims 1, 8 and 15 were amended.

Priority

5.   This application has no priority claim made. The filing date is 02/22/2002.

Specification

6.   The specification changes have reversed all previously proposed changes with the

exception of "These holes <u>103</u> are typically …" toward the middle of page 2 of current

amendment. This is reviewed and accepted. However, the specification as per paragraph 30 of

publication i.e. US 20030172191 A1 and the current amendment, and the last paragraph on page

6 of original specification still contain references to "FIG. 11" or "FIG1 1" that were previously

pointed in item d of section 5, Office Action dated 07/17/2007 as to be corrected to "FIG. 1".

Claim Rejections - 35 USC § 112, second paragraph

7.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 30-32 is rejected under 35 U.S.C. 112, second paragraph as following:

a. Claim 30 recites the limitation of "consisting essentially of" which is not found the

original specification or claim language. Applicant has further argued the limitation

as per 3rd paragraph of page 12 of current amendment. It seems that applicant intends

to differentiate its original limitation of "comprising" with this limitation. Although

the amended change seems to be irrelevant to the application and to the applying of

prior arts in the following rejection, this change seems to modify the scope of the

invention and introduce new subject matter into the application. It would require

undue experimentation for one of ordinary skill in the networking art at the time the

invention was made to be able to add and test all these functions inclusively rather

than just pick a particular function for implementation. Claim 30 and its depending

claims 31-32 are thus rejected. For the purpose of applying art, the limitation of

"consists essentially of" is read as "comprising".

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign
country or in public use or on sale in this country, more than one year prior to the date of
application for patent in the United States.

Claims 30-31, 33-35, 37-38, 41-42, 45 and 47 are rejected under 35 U.S.C. 102(b) as being

anticipated by Ayd et al. (US 6025989 A), hereinafter referred as Ayd.

    a.   Regarding claim 30, Ayd disclosed a system for providing a server (column 1, lines

         26-32: rack-mounted computer as server unit), consisting essentially of: at least one

         server (column 1, lines 26-32: rack-mounted computer as server unit), the server

         including: a disk drive (column 3, lines 1-3: disk drive) including a first power socket

         (column 3, lines 4-25: removable chassis, sliding electrical connection); and a CPU

         subsystem (column 2, line 63- column 3, line 3: logic chassis) encased by a housing,

         the housing mechanically coupled directly to the disk drive (Fig. 1, claim 1 and

         column 3, lines 7-8 and 17-24: side piece 34 of the forward extension 30 is the ear,

         draws and locks the chassis together); wherein power is transferred from a CPU

         power connector directly mated to a disk drive power connector, wherein the power

         transfer requires no external wiring (Fig. 1, column 2, line 63- column 3, line 3:

         power supply in removable chassis; column 3, lines 18-21: mating connectors;

         column 3, lines 50-52: power cable to logic chassis); wherein the at least one server

         does not include an internal power supply disposed therein (Fig. 3 and 5-6; column 3,

         lines 49-52: power supply cable; column 4, lines 49-52: bulk power assembly

converts AC to DC and supplies to the power supply in each removable chassis; applicant's Fig. 2 depicts a power regulator internal to the CPU subsystem and drawn external power from power socket/plug).

b. Regarding claim 31, Ayd disclosed the system of claim 30, wherein the CPU subsystem conforms approximately to the height and width of the disk drive (Fig. 1, claim 1 and column 3, lines 7-8 and 17-24: side piece 34 of the forward extension 30 is the ear, draws and locks the chassis together).

c. Regarding claim 33, Ayd disclosed a system for providing a server (column 1, lines 26-32: rack-mounted computer as server unit), comprising: at least one server (column 1, lines 26-32: rack-mounted computer as server unit), the server including: a first disk drive (column 3, lines 1-3: disk drive); and a CPU subsystem (column 2, line 63- column 3, line 3: logic chassis) encased by a housing, the housing mechanically coupled directly to the disk drive (Fig. 1, claim 1 and column 3, lines 7-8 and 17-24: side piece 34 of the forward extension 30 is the ear, draws and locks the chassis together); wherein power is transferred from a CPU power connector directly mated to a disk drive power connector, wherein the power transfer requires no external wiring (Fig. 1, column 2, line 63- column 3, line 3: power supply in removable chassis; column 3, lines 18-21: mating connectors; column 3, lines 50-52: power cable to logic chassis); wherein the at least one server does not include an internal power supply disposed therein (Fig. 3 and 5-6; column 3, lines 49-52: power supply cable; column 4, lines 49-52: bulk power assembly converts AC to DC and supplies to the power supply in each removable chassis; applicant's Fig. 2 depicts a

power regulator internal to the CPU subsystem and drawn external power from power socket/plug).

d. Regarding claim 34, Ayd disclosed the system of claim 33, farther comprising an external power supply connected to the at least one server, and configured to supply power thereto (Fig. 3 and 5-6; column 3, lines 49-52: power supply cable; column 4, lines 49-52: bulk power assembly converts AC to DC and supplies to the power supply in each removable chassis; applicant's Fig. 2 depicts a power regulator internal to the CPU subsystem and drawn external power from power socket/plug).

e. Regarding claim 35, Ayd disclosed the system of claim 33, wherein the CPU subsystem housing conforms approximately to the height and width of the disk drive (Fig. 1, claim 1 and column 3, lines 7-8 and 17-24: side piece 34 of the forward extension 30 is the ear, draws and locks the chassis together).

f. Regarding claim 37, Ayd disclosed the system of claim 33, further comprising a router connected to the at least one server (column 3, line 61-column 4, line 16: computer switch 72).

g. Regarding claim 38, Ayd disclosed the system of claim 33, wherein the server further comprises a second disk drive connected to the CPU main unit via a data bus socket (column 3, lines 1-3: a removable chassis including a pair of disk drives).

h. Regarding claim 41, Ayd disclosed a method of providing network services (column 1, lines 26-32: rack-mounted computer as server unit; column 3, line 61-column 4, line 16: communicate with each other), said method comprising the steps of: providing a server (column 1, lines 26-32: rack-mounted computer as server unit), the

server including: a first disk drive (column 3, lines 1-3: disk drive), a CPU subsystem (column 2, line 63- column 3, line 3: logic chassis), providing a first electrical connector in the disk drive; providing a second electrical connector in the CPU subsystem (column 3, lines 4-25: removable chassis, sliding electrical connection); mating the first electrical connector to the second electrical connector without the use of external wiring (Fig. 1, column 2, line 63- column 3, line 3: power supply in removable chassis; column 3, lines 18-21: mating connectors; column 3, lines 50-52: power cable to logic chassis); mechanically coupling the CPU subsystem directly to the first disk drive (Fig. 1, claim 1 and column 3, lines 7-8 and 17-24: side piece 34 of the forward extension 30 is the ear, draws and locks the chassis together); providing a single power supply, wherein the power supply is disposed external to the server (Fig. 3 and 5-6; column 3, lines 49-52: power supply cable; column 4, lines 49-52: bulk power assembly converts AC to DC and supplies to the power supply in each removable chassis; applicant's Fig. 2 depicts a power regulator internal to the CPU subsystem and drawn external power from power socket/plug).

i.   Regarding claim 42, Ayd disclosed the system of claim 41, further comprising connecting a second disk drive from the CPU subsystem via a data bus socket (column 3, lines 1-3: a removable chassis including a pair of disk drives).

j.   Regarding claim 45, Ayd disclosed the system of claim 41, further comprising regulating the power supplied to the server (Fig. 3 and 5-6; column 3, lines 49-52: power supply cable; column 4, lines 49-52: bulk power assembly converts AC to DC and supplies to the power supply in each removable chassis).

     k. Regarding claim 47, Ayd disclosed the system of claim 41, wherein mechanically

coupling the CPU subsystem to the first disk drive includes: sliding a pair of ears over

the over the first disk drive, the ears being disposed on the side of the housing (Fig. 1;

column 3, lines 17-24: side piece 34 of the forward extension 30 is the ear, draws and

locks the chassis together); and coupling the pair of ears to the first disk drive (Fig. 1;

column 3, lines 17-24: draws and locks the chassis together over slot 30).

Ayd disclosed all limitations of claims 30-31, 33-35, 37-38, 41-42, 45 and 47. Claims 30-31,

33-35, 37-38, 41-42, 45 and 47 are rejected under 35 U.S.C. 102(b).

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject matter
> sought to be patented and the prior art are such that the subject matter as a whole would have
> been obvious at the time the invention was made to a person having ordinary skill in the art
> to which said subject matter pertains. Patentability shall not be negatived by the manner in
> which the invention was made.

Claims 32, 36, 40, 43-44 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Ayd, further in view of Mazingo ("Internet server Load balancing" Mazingo, Sue),

hereinafter referred as Mazingo.

   a.   Ayd shows claims 30, 33 and 41as above. Ayd does not show (claim 32) wherein the

        at least one server unit includes a plurality of server units used to share a server load.

        However Ayd does show (Fig. 3-4; column 3, lines 45-60) having multiple servers in

        a single rack.

   b.   Mazingo shows (claim 32) wherein the at least one server unit includes a plurality of

        server units used to share a server load (2nd paragraph: two or more server systems are

        used to shared a server load) in an analogous art for the purpose of Internet server

        load balancing.

   c.   It would have been obvious to a person of ordinary skill in the art at the time of the

        invention was made to modify Ayd's functions of rack mounted multiprocessor

        computer with Mazingo's functions of using multiple servers to provide the same data

        content or application service.

d. The modification would have been obvious because one of ordinary skill in the art would have been motivated to provide redundant/load balancing functions per Mazingo's teaching with a multiple servers per Ayd (Fig. 1 and 4; column 1, lines 26-32; column 1, line 63-column 2, line 25)'s teaching.

e. Regarding claim 36, Mazingo shows wherein the at least one server comprises a plurality of servers used to share a server load (2nd paragraph: two or more server systems are used to share a server load).

f. Regarding claim 40, Ayd shows wherein the plurality of servers comprise a server farm system (column 3, lines 1-3: a removable chassis including a pair of disk drives).

g. Regarding claim 43, Mazingo shows wherein the at least one server comprises a plurality of servers arranged to share a server load (2nd paragraph: two or more server systems are used to shared a server load).

h. Regarding claim 44, Ayd shows further comprising: providing a network connection among the plurality of servers (column 3, line 61-column 4, line 16: communicate with each other); and providing software capable of providing a redundant operation among the servers (3rd paragraph: a plurality of servers in a server farm providing the same data content or application service).

i. Regarding claim 46, Ayd shows further comprising operating the plurality of servers as a server farm system (column 3, lines 1-3: a removable chassis including a pair of disk drives).

Together Ayd and Mazingo disclosed all limitations of claims 32, 36, 40, 43-44 and 46.

Claims 32, 36, 40, 43-44 and 46 are rejected under 35 U.S.C. 103(a).

10.   Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ayd and further
in view of Savage ("Disk Arrays Challenge DASD" Savage, J.A.), hereinafter referred as Savage.

    a.   Ayd shows claims 33 and 38 as above. Ayd does not show (claim 39) wherein the
plurality of disk drives are arranged to operate as a RAID disk array. However Ayd
does show (Fig. 4; column 3, lines 1-3) having multiple disk drives in a single rack.

    b.   Savage shows (claim 39) wherein the plurality of disk drives are arranged to operate
as a RAID disk array (paragraph 4: a typical RAID) in an analogous art for the
purpose of direct access storage device.

    c.   It would have been obvious to a person of ordinary skill in the art at the time of the
invention was made to modify Ayd's functions of rack mounted multiprocessor
computer with Savage's functions of using RAID for direct storage access.

    d.   The modification would have been obvious because one of ordinary skill in the art
would have been motivated to grouping a multiple sever nodes per Ayd (Fig. 1 and 4;
column 1, lines 26-32; column 1, line 63-column 2, line 25)'s teaching used as RAID
per Savage (paragraph 4)'s teaching.

Together Ayd and Savage disclosed all limitations of claim 39. Claim 39 is rejected under 35
U.S.C. 103(a).

Response to Arguments

11.   Applicant's arguments filed on 02/22/2008 have been fully considered, but they are not

persuasive.

      a. Applicant has cancelled all previous presented claims and added a new set of claims.

          Examiner has reviewed the claims with respect to applicant's original specification

          and claim language. Examiner has further reviewed the claim rejections and applied

          prior art as per office action dated 07/17/2007. Examiner has found the applied prior

          art are still applicable to the current claim set. Claim rejections are updated to reflect

          the new claim set and references cited from applied prior art as above

      b. Applicant has argued (2nd paragraph on page 12 of current amendment) that nowhere

          in Ayd is there teaching suggestion or motivation of the server (or chassis as labeled

          in Ayd) not having an internal power supply and indeed Ayd, as argued in the

          previous response teaches the exact opposite (See figures 1, col. 3, lines 1-3); Ayd

          specifically states the server (or removable chassis) includes a power supply;

          accordingly, the applicant submits independent claims 30, 32 and 41 are not

          anticipated by Ayd. As per claim 1 rejection above on the limitation of "wherein the

          at least one server does not include an internal power supply disposed therein", (Fig.

          3 and 5-6; column 3, lines 49-52: power supply cable; column 4, lines 49-52: bulk

          power assembly converts AC to DC and supplies to the power supply in each

          removable chassis; applicant's Fig. 2 depicts a power regulator internal to the CPU

          subsystem and drawn external power from power socket/plug) Fig. 3, 5 and 6 of Ayd

          has shown (column 3, lines 49-52) that a power supply cable is connected to the logic

chassis; (column 4, lines 49-52) a bulk power assembly converts AC power to DC power, i.e. 48 volts, that is supplied to the power supplier in each removable chassis, which converts the DC voltage to various voltages needed by the components in the chassis. Here, the bulk power assembly is the external power as per claim 34 or Fig. 3 of applicant's application. The power supplier in each removable chassis per Ayd is as the power regulator as per claim 45 or Fig. 2 of applicant's application. As the disk per Ayd on Fig. 1 seems to be a standard disk which has a standard connector for power and data as per applicant's disclosed prior art in 1st paragraph on section 2 on page 1 of specification. It is detailed in a legacy prior art Krum et al. (US 4,908,715) Disk Drive Unit. Thus both applicant (Fig. 2 and 3) and Ayd (Fig. 3, 5and 6) have disclosed the similar power supply schemes with external (bulk power assembly) and internal power supply (regulator).

c. Applicant's further argument (3rd paragraph on page 12 of current amendment) based on the limitation of "consisting essentially of" is not found in original specification or claim language. Ayd's power supply in chassis seems to read upon the power regulator as per Fig. 2 of applicant's specification or claim 45. Ayd's logic chassis seems to connect with non-logic chassis directly with mating connectors to complete the electrical connection with power cable to logic chassis (Fig. 1, column 3, lines 18-21 and 50-52). It is not clear how a second disk drive is accommodated in applicant's application. Ayd has shown two disk drives in chassis 14 as per Fig. 1.

d. It is the Examiner's position that Applicant has not submitted claims drawn to limitations, which define the operation and apparatus of Applicant's disclosed

invention in manner, which distinguishes over the prior art. As it is Applicant's right
to claim as broadly as possible their invention, it is also the Examiner's right to
interpret the claim language as broadly as possible. It is the Examiner's position that
the detailed functionality that allows for Applicant's invention to overcome the prior
art used in the rejection, fails to differentiate in detail how these features are unique
(see items a, c and 41 in section 9). As it is well known in the art of housing
electronic equipments for all industrial application involving multiple units of similar
functions, rack-mounted cabinet is used as admitted by applicant and shown by Ayd
for multiple computer system with disk drives. Ayd has shown the possibility of
joined CPU subsystem with its disk drive in front and rear and fit a cabinet of certain
dimension. It is clear that Applicant must be able to submit claim language to
distinguish over the prior arts used in the above rejection sections that discloses
distinctive features of Applicant's claimed invention. It is suggested that Applicant
compare the original specification and claim language with the cited prior art used in
the rejection section above or the Remark section below to draw an amended claim
set to further the prosecution.

e. Failure for Applicant to narrow the definition/scope of the claims and supply
arguments commensurate in scope with the claims implies the Applicant's intent to
broaden claimed invention. Examiner interprets the claim language in a scope
parallel to the Applicant in the response. Examiner reiterates the need for the
Applicant to more clearly and distinctly define the claimed invention.

Remarks

12.   The following pertaining arts are discovered and not used in this office action. Office

reserves the right to use these arts in later actions.

     a. Morrison et al. (US 5737185 A) Latch and ejection mechanism for portable hard

        drive

     b. Obara (US 6772365 B1) Data backup method of using storage area network

     c. Baker et al. (US 6901525 B2) Method and apparatus for managing power

        consumption on a bus

Conclusion

13.   THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy

as set forth in 37 CFR 1.136(a).

    A shortened statutory period for reply to this final action is set to expire THREE MONTHS

from the mailing date of this action. In the event a first reply is filed within TWO MONTHS

of the mailing date of this final action and the advisory action is not mailed until after the end

of the THREE-MONTH shortened statutory period, then the shortened statutory period will

expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

14.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. Refer to the enclosed PTO-892 for details.

    Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Peling A. Shaw whose telephone number is (571) 272-7968. The

examiner can normally be reached on M-F 8:00 - 4:00.

    If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, William C. Vaughn can be reached on (571) 272-3922. The fax phone number for

the organization where this application or proceeding is assigned is (571) 273-8300.

    Information regarding the statu9s of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/P. A. S./
Examiner, Art Unit 2144
/William C. Vaughn, Jr./
Supervisory Patent Examiner, Art Unit 2144